

REMARKS**Overview**

Claims 1-9 and 11-14 are pending in this application. Claim 15 has been cancelled as it does not introduce any limitations not present in claim 14. The present response is an earnest effort to secure immediate allowance of all pending claims. Reconsideration and passage to issuance is therefore respectfully requested.

Issues under 35 U.S.C. § 103

Claims 1-9 and 11-15 have been rejected under 35 U.S.C. § 103(a) as being obvious over U. S. Patent No. 4,677,413 to Zandman in view of U. S. Patent No. 6,404,324 to Witt et al. These rejections are respectfully traversed.

As the Examiner recognizes, Zandman does not disclose foils on both sides of the substrate, and Witt does not disclose using low TCR foil. The Examiner's position appears to be that Zandman discloses the claimed invention except for foils on both sides of the substrate and that Witt discloses identical resistors on opposite sides of a substrate, thus rendering the claimed invention obvious. The Examiner's indicates that the motivation to combine Zandman and Witt is provided by Witt which teaches solving the problem of bending so as to handle more power, and also to allow reduced cost, and reduced size and circuit board mounting, all performed by putting preferably an identical resistor on both sides (Office Action, p. 4, numbered paragraph 3). Such a position might be proper, if the Applicant was merely claiming a resistor with foil cemented to both sides of a substrate, but that is not what is claimed.

Here, the Applicant has discovered that by proper selection of materials "a cumulative effect of reduction of resistance change due to power" can be provided where low TCR foil is

used. Here, each resistive foil has "a low TCR of 0.1 to 1 ppm/°C." The claimed invention requires low TCR foil cemented to opposite sides of a substrate hence requiring low TCR and power on both sides of the resistor which is essential for the precision of current sensors. Thus, the fact that the resistive foil is low TCR is highly significant to the claimed invention.

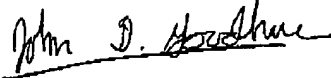
Zandman uses a low TCR foil, and through proper selection of materials manages to partially offset change in resistance due to temperature changes and change in resistance due to stress. Zandman does not recognize that the proper selection of materials provides "a cumulative effect of reduction of resistance change due to power." Placing low TCR foil on both sides of a substrate will increase the power of the resistor. Increasing the power of the resistor would be expected to increase the resistance change due to power. To one skilled in the art, it simply would make no sense to use low TCR foil to decrease resistance change due to temperature, and then put the low TCR foil on both sides of a substrate which results in an increase of the resistance change due to power. Such a combination would not make sense because the benefits of using low TCR foil would effectively be lost by increasing the resistance change due to power.

Neither Zandman nor Witt provide any appropriate mechanism for reducing the effect of resistance due to power. Without controlling the effect of resistance due to power, having low TCR foil on opposite surfaces of a substrate simply makes no sense as the benefit of using low TCR foil would be lost. Thus, it can not be obvious to combine Zandman nor Witt in the manner proposed by the Examiner. Therefore, the Examiner is asked to withdraw these rejections on this basis and find all claims in proper form for immediate allowance.

Conclusion

No fees or extensions of time are believed to be due in connection with this amendment;
however, consider this a request for any extension inadvertently omitted, and charge any
additional fees to Deposit Account No. 26-0084.

Respectfully submitted,



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